

Patent Claims

1. Radiation module for thermal or UV irradiation processing procedures with a large number of radiation sources essentially adjacent and parallel to one another for electromagnetic radiation whose main effective range is in the UV spectrum, visible spectrum, and/or near infrared (NIR) part of the spectrum, particularly at wavelengths between 250 nm and 1.5 μm , whereby each of the radiation sources possesses an elongated central section, two bent ends, and two bent sections connecting the ends with the central section, and a reflector and cooler body bearing the radiation sources, characterized in that the reflector and cooler body possesses two end reflector sections assigned to the bent sections of the radiation source from the straight elongated main section to the ends formed as one piece.
2. Radiation module as in Claim 1, characterized in that the end reflector sections are essentially flat over the entire width of the radiation module that lies parallel to the longitudinal axes of the radiation sources used and form an angle of between 30° and 75°, preferably between 45° and 60°, with the plane of the longitudinal axes of the radiation sources.
3. Radiation module as in Claim 1 or 2, characterized in that each of the end reflector sections is raised above an edge of the reflector and cooling body that are at the same height as the transition from the bent section into the end of the radiation sources inserted into the reflector and cooling body, and include a separation from the bent sections of the radiation sources along the longitudinal dimension of the reflector and cooling body that is between one-half and one diameter of a radiation source.
4. Radiation module as in one of Claims 1 through 3, characterized in that the end reflector sections extend along the height dimension of the reflector and cooler body maximum up to a plane extending through the central axes of the adjacent radiation sources above the reflector and cooler body.
5. Radiation module as in one of the previous Claims, characterized in that cooling fins are formed on the rear side of the reflector and cooler body facing away from the radiation source for the purpose of implementing forced-air cooling.

6. Radiation module as in Claim 5, characterized in that the reflector and cooler body with side walls extending above the height of the cooling fins and a rear wall connecting them is so implemented that the cooling fins are contained within an essentially enclosed cool air channel extending along
5 the longitudinal dimension of the reflector and cooler body.
7. Radiation module as in Claim 5 or 6, characterized in that the ends of the radiation sources and electrical contact devices assigned to them are equipped with cooling fins and are so placed in sections of the cooling fins
10 that that they receive the air stream flowing over the cooling fins.
8. Radiation module as in Claim 6 or 7, characterized in that securing and connection media are mounted on the outer side of the rear wall to hold the radiation source in place and provide it with external electrical contact.
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9. Radiation module as in one of the previous Claims, characterized in that the reflector and cooler body is formed as one piece.